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IMPROVEMENTS :

IN AND ABOUT THE

CITY OF NEW-YORK,

PROPOSED BY

D. HOUGH, JUNR.,



Including his plan to annex Jersey City to the future City of Hoboken ; to annex Bergen Neck to New-York ; to build a Bulkhead from Hoboken to parts opposite Bergen Neck ; to make ground from this Bulkhead to the base of the Palisades and Bergen Neck ; to bring water from the Passaic river, above Paterson, to Communipaw ; to cut through Bergen Hill ; to extend, by certain improvements, Harlem and Hudson River Railroads to Battery Place ; to make Ground, Buildings, Streets and Piers on North River ; and lastly, more in detail, his plan to Enlarge and Improve the New-York Battery, in a manner furnishing connectedly unequalled commercial facilities, and the most magnificent Promenade in the world.

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NEW-YORK :

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Entered, according to Act of Congress, in the year 1851, by

D. HOUGH, JUNR.

In the Clerk's Office of the District Court of the United States for the Southern District  
of New-York.

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# IMPROVEMENTS,

BY D. HOUGH, JUNR.

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As novelty and progress in farming, manufacturing and traveling distinguish the present age, the public, I presume, will not be unduly startled from its propriety by novelty and progress in the methods of building, enlarging and improving our cities.

Two great Manufacturing and Commercial Cities may, with profit, be built, mostly on made ground, on the west side of North River and New-York Bay, opposite to and including Hoboken, Jersey City and Bergen Neck.

The States of New-York and New-Jersey should make a compromise. New-York should cede certain water rights to New-Jersey, opposite Jersey City and Hoboken. New-Jersey, in return, should cede Bergen Neck to New-York. Then let the chief Manufacturing and Commercial City of New-Jersey be called Hoboken, on account of the excellence of the word for the name of a city. For the same reason let the part ceded by New-Jersey to New-York, and the part now belonging to New-York between Jersey City and Staten Island, be called Communipaw. Make Communipaw, thus defined, as much a part of the city of New-York as Harlem or Manhattanville. Build a bulkhead from the north shore of Hoboken to or southerly of Bedlow's Island, and eventually to or beyond Constable's Point, Bergen Neck, in from 20 to 30 feet of water, outside of, but in range with, Steven's Point, Ellis's Island, Bedlow's Island, and Robbin's Reef. Make ground, with a suitable ascent for drainage, from this bulkhead back to the Palisades and Bergen Neck.

The description and localities of the materials with which I propose to make the bulkhead and ground aforesaid, as well as the manner of performing the work at such moderate cost as to render large sections immediately practicable

I reserve for those from whom I shall receive a fair compensation for my discoveries.

Ten miles from Communipaw, across Newark Meadows, into Belleville, a short cut will connect with a level of the Morris Canal fed by the Pompton River, which level, also, by means of a dam about two miles above Paterson, may be fed by the Passaic River at an elevation in either case of 180 feet above tide water. Build this dam. Make the canal below it four or five times the present dimensions. Convey the water from Belleville in a double vault aqueduct, beneath a continuous, indestructible stone or brick building, the bulk and weight of which shall make the upper spans of the arches tight and substantial ; or in cast-iron pipes.

Buy the water power of the Passaic up to and including Little Falls. Allow the factories in Paterson the surplus water, and furnish to each, in addition, steam power equal to the water-power now used. Make about two miles of the canal, from the dam proposed, sufficiently large for the whole Passaic River except in freshets. At the Paterson end of this enlargement, a short distance above Passaic Falls, take out the surplus water, and sell the power for the use of factories. Thus the water power of Paterson, with its recommended steam auxiliary, will be more reliable, and actually increased, as estimated by the present mode of application.

Make a deep, wide, straight cut through Bergen Hill, opposite Communipaw, for a great thoroughfare from Battery Place to Newark.

Widen West and Beaver streets. Widen and extend Gold street northerly to Chatham Square, and southerly to Beaver street. Extend Harlem Railroad through the Bowery, Chatham Square, Gold and Beaver streets as improved to Battery Place. Extend Hudson River Railroad through West street to Battery Place. Let light stage cars, in pairs, having a small improved locomotive between each pair, accomodate the city travel on these roads. Let the fare on both roads to or from Battery Place and 54th street be one cent ; and to or from Battery Place, Harlem and Manhattanville, two cents. These improvements, besides effectually relieving Broadway, will immensely increase the value of property in

all the upper part of the City, as well as on the entire line of the roads as proposed.

Commence at Pier 1 North River, making ground for buildings, cross streets, and three parallel streets outside of West street, opposite to which, at suitable distances apart, extend piers into North river, 40 feet wide and 900 feet long. Let this work be extended in sections to the upper part of the City.

I propose a substitute for, or an improvement of, the plan adopted by our City Councils, to enlarge the New-York Battery.

For what is my invention, and valuable in application, described in what follows, I claim inventor's rights. For compensation, however, in case of success, I shall rely mainly upon the liberality of the City Authorities.

Make an Inside, an Outside, and a Centre, or Palisade Battery; the whole covering a space of 117 acres.

Let the Inside be the present Battery, below Pearl street, extending about 300 feet beyond Staten Island Ferry Pier, having, in all, an area of  $10\frac{1}{2}$  acres, with  $637\frac{1}{2}$  feet front towards Governor's Island, including  $137\frac{1}{2}$  feet sea wall walk hereafter described.

Let the Outside be wholly a new-made Battery, 1800 feet front on North river, having, also, an area of  $10\frac{1}{2}$  acres, with a water front, in all of 2,500 feet.

Let the Centre, or Palisade Battery, be situated between State street, the Inside and Outside Battery, and between Greenwich street and Broadway, below the south end of Trinity Place; having, in all, including State street and Battery Place, an area of 96 acres.

Demolish the present buildings between Broadway and Greenwich street below the south end of Trinity Place. Fit and make ground and bulkhead, in all, on Palisade Battery plot, for 17 blocks of stores with attaching balconies, 17 streets, 8 sea wall walks, and 7 docks. Let these blocks, docks, and streets, excepting Pearl street and Battery Place, as extended and improved, run in parallel directions, northerly and southerly. Build 8 blocks of stores, 200 feet apart, all 5 stories high, 1650 feet long by 100 feet wide. Let the inside block front easterly on the Inside Battery and State street above Pearl. Let the outside block front westerly on the Outside Battery.

Let the space between these 8 blocks southward be occupied by 7 docks, each 1100 feet long by 125 feet wide, having a street on either side  $37\frac{1}{2}$  feet wide; and northward by 7 blocks, all 5 stories high, and 500 feet long by 100 feet ~~high~~ <sup>wide</sup>, having streets on either side 50 feet wide. Let the northerly ends of the 15 blocks described be on Battery Place, except the outside block, which shall be parallel with the rest, but situated on a notch of the Outside Battery.

Let underground passages be made, for water to pass freely to and from these seven docks and the North River Docks.

Fronting on Broadway and Greenwich street, build two blocks, 12 feet apart, each about 600 feet long by 100 feet wide, graded on the tops, mostly to a uniform ascent, rising from the junction of Trinity Place and Greenwich street, and from Broadway, opposite, to an elevation of five stories at Battery Place.

Make Battery Place 150 feet wide, and extend the same to the Outside Battery. Let State street be, at no point, less than 100 feet wide.

Extend Pearl street parallel with Battery Place, passing the north end of the Inside Battery through eight arches to be made in the eight blocks before mentioned, and between the northerly ends of the docks and the southerly ends of the 500 feet blocks before described, to the Outside Battery.

At the south end of each of the eight blocks before named, build a tier of five balconies, making forty in all. Let each balcony be 100 feet long by 16 feet wide.

Make, at the base of these balconies and at the ends of the streets on either side, sea wall walks, all 25 feet wide, six each 175 feet front, and two—one connecting with the Inside and the other with the Outside Battery—each  $137\frac{1}{2}$  feet front. These balconies, it will be noticed, all front South, opposite to, and westerly of, Governor's Island.

All the blocks before mentioned, being massive, indestructible, self-extinguishing fire-proof work, made in a new and peculiar manner, as hereinafter described, to last for centuries, let the tops of all—making an area of 41 acres—be covered by earth for a promenade, which shall have, beside its novelties, the usual attractions of walks, grassplots and trees. Sixteen iron bridges, each sixteen feet wide—two over the east end of Battery Place, and fourteen midway



between Battery Place and Pearl street as extended—will connect the tops of all the blocks, and, consequently, all of this promenade.

The main entrance to the Promenade here proposed, will be by the graded Ascents opening on Broadway and the junction of Trinity Place and Greenwich street. Twelve stairways will, also, lead to it; one in the inside block at the northwest corner of the Inside Battery, one each in the north ends of the 3d and 6th 1650 feet blocks, one in the north end of the block on the Outside Battery, and one each through the 8 tiers of Balconies before described.

The Batteries, Balconies, and Sea Wall Walks proposed, devoted exclusively to the purposes of a Public Promenade, will contain an area of 64 acres, and present direct, unobstructed fronts on our noble bay and harbor, making in the aggregate 10325 feet, or 8675 feet more than we now have from the present Battery, including the part obstructed by Castle Garden.

The number of stores in all the blocks will be 709, each 25 feet front by 100 feet deep, and all 5 stories high, excepting those over the Pearl street Arches, and under the graded Ascents fronting on Broadway and Greenwich street. Of this number 16 will front on Broadway and a rear yard, 16 on Greenwich street and a rear yard, 23 easterly on a street, and westerly on the Outside Battery, 43 easterly on a street and a dock, and westerly on the Outside Battery, 43 westerly on a street and a dock, and easterly on the Inside Battery, 345 on two streets, and 258 on two streets and two docks.

I now proceed to the more important part of what I have to say—important, because the main question in regard to the feasibility of my whole plan rests upon points which I am about to meet. Let the principal materials of the blocks before named be stone, iron, brick, and cement. Let the walls rest on inverted arches, over foundations made as good as possible. Let the partition walls be about 11 feet apart in the clear. Let all the blocks contain a succession of cement laid, brick partition walls, and arches for floors, and roof, of that space or span, excepting arches passed through by streets. If necessary, let all the arches be ribbed by I plates of iron. As each store will have a partition

wall through the centre, let these walls have frequent openings, faced with iron or stone. Let all the walls and arches be sufficiently thick to withstand any weight or pressure that may be brought against them. Construct the front walls with brick backs and brown stone facings, in the usual way. Let the tops of the arches, both for the floors and the roof, be covered by large flag stone, laid in cement. Let every door, window, hatch, and stairway, in all the stores, have a fire-proof iron shutter, lined on the shutting edges with India-rubber, or other elastic material, in such manner as, when closed, to be water-tight. Let all the shutters be movable (to close or open,) by means of tiller chains leading to, at all times, easily accessible wheel-houses in the first stories. Let this be done on the same principle that tiller chains are made to control the rudder of a steamboat.

Lay water pipes, (kept empty except in case of fire) passing up partition walls from the main line in the street opposite, in such manner that each, by means of valves controllable in the wheel-houses, will fill separately with water any required story or floor of two stores. Let all the stores be thus furnished. Let all the pipes have street waste-valves, to let off the water in the stores when necessary.

Capstone the partition walls at the base of the roof arches. Let these capstones be wider than the walls upon which they rest—wider than the base of the arches resting upon them.

Let these capstones have gutters on either side, with centre outlets, passing through partition walls into dock sewers. If necessary, under the roof arches resting on the capstones, let there be movable tin roofs. Let this roofing consist of a succession of arched, rim-laping troughs, tied at the ends by small cords to iron rods fastened to the capstones.

Let the top arches be covered by a grading with a descent from the fronts of the stores to the centre inwards, Let this grading be covered by flag stone laid in water-proof cement, having the edges filled with artificial slate cement, thus making the whole surface over the stores a solid face of stone.

Along and over the centre of the stores, build a sewer with occasional openings down partition walls into dock

sewers, with many openings on either side to admit ground water ; and with frequent openings to small sewers giving quick transit to surface water coming from gutters on the inside of the front walks. Over all lay rich loam about 5 feet deep in the middle by  $2\frac{1}{2}$  feet on the sides, graded with a descent from the middle to the front walk gutters

Lay out this ground in four principal walks, and three lines of grass plots and trees parallel with the store fronts. Intersect these lines and walks by frequent cross walks. Let two of the four principal walks lie along the fronts of the stores. Let these walks be flagged with flag stones having a slight descent inwards. Make a flagged gutter along the inside of these walks ; and at right angles, for outlets to the same, make small sewers, leading to the centre or main sewer. Let the centre of one line of grass plots and trees be over the centre of the stores: Let the two remaining lines adjoin the front walks.

Let the spaces between these lines be occupied by the two remaining principal walks. Let the lines named be planted with grass plots and trees in due order.

Let the style of the store fronts be nearly plain Gothic ; or a mixed Order of elaborate workmanship. Make the northern ends, on Battery Place, Tower like. On the fronts of all the Walks, balconies and promenades construct an Ornamental Iron Fence. Let this Fence represent Plants, Grasses, Heroes, Statesmen, Ladies, Children and numerous *Employments*. Through the middle of each block build a line of chimneys—one for every two stores—each about 30 feet above the Elevated Promenade. Let these chimneys resemble, somewhat, in outside appearance, the top part of Trinity steeple, having however globe caps of iron surmounted by eagles of like material.

Construct, in every store, a water closet, supplied with Croton water, ventilated by pipes leading into the chimneys, and opening to passages swept by constant currents of sea water.

Let the fronts of the Balconies consist of cast columns and wrought plates of iron. Let the beams be timber with iron end fastenings. Ceil the beams with sheet iron. Pave the floors with a composition chiefly of fine gravel and Asphal-

tum ; or overlay the same with fine open-work castings having said open-work filled with a mixture of tar and chalk.

Let the walks and crossings of the streets be flagged with flag stone ; and let the streets be paved with Russ or similar pavement. Thus I have given an outline of the manner of constructing stores and appurtenances answering the purposes I have set forth.

I now proceed to estimate the cost of the Battery Enlargement herein proposed. To make calculations short and simple, I call the number of stores 700, all 5 stories high.

|             |                                                                                                                                                                                                                                                                   |              |              |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|
| 650,000,000 | Brick in stores.....                                                                                                                                                                                                                                              | \$8 per 1000 | \$5,200,000  |
| 1,400       | Brown stone store fronts .....                                                                                                                                                                                                                                    | \$1700       | 2,380,000    |
| 19,025      | Feet bulkhead .....                                                                                                                                                                                                                                               | 70           | 1,332,000    |
| 9,540,600   | Feet flagstone .....                                                                                                                                                                                                                                              | 15 cts       | 1,492,000    |
| 10,755,116  | Cubic yards of earth .....                                                                                                                                                                                                                                        | 30           | 3,226,535    |
| 264,000     | Cubic yards of earth on Elevated Promenade....                                                                                                                                                                                                                    | 42           | 111,000      |
| 700         | Store foundations.....                                                                                                                                                                                                                                            | 2000         | 1,400,000    |
| 14,000      | Iron window shutters .....                                                                                                                                                                                                                                        | 20           | 280,000      |
| 2,800       | Iron door do .....                                                                                                                                                                                                                                                | 22           | 61,600       |
| 5,600       | Iron hatchway do .....                                                                                                                                                                                                                                            | 20           | 112,000      |
| 2,800       | Sashed double doors.....                                                                                                                                                                                                                                          | 10           | 28,000       |
| 14,000      | Window frames with sash and lights.....                                                                                                                                                                                                                           | 6            | 84,000       |
| 1,400       | Offices finished .....                                                                                                                                                                                                                                            | 50           | 70,000       |
| 78,000      | Feet curb and gutter stone .....                                                                                                                                                                                                                                  | 62½          | 48,750       |
| 12,344      | Yards grooved Russ pavement.....                                                                                                                                                                                                                                  | 6 50         | 801,775      |
| 1,400       | Rise and fall fixtures.....                                                                                                                                                                                                                                       | 150          | 210,000      |
| 5,600       | Flight of stairs.....                                                                                                                                                                                                                                             | 75           | 420,000      |
| 174,600     | Feet capstones.....                                                                                                                                                                                                                                               | 50           | 87,000       |
| 350         | Chimneys.....                                                                                                                                                                                                                                                     | 600          | 210,000      |
| 2,400       | Feet 12 inch water pipe.....                                                                                                                                                                                                                                      | 2 50         | 5,000        |
| 24,500      | Feet 6 do do .....                                                                                                                                                                                                                                                | 80           | 19,600       |
| 17,900      | Feet 9 do do .....                                                                                                                                                                                                                                                | 1 30         | 23,270       |
| 350         | Hydrants .....                                                                                                                                                                                                                                                    | 20           | 7,000        |
| 3,500       | Valves .....                                                                                                                                                                                                                                                      | 6            | 21,000       |
| 1,820,000   | Feet tin roofing.....                                                                                                                                                                                                                                             | 10           | 182,000      |
| 15          | Sluiceways .....                                                                                                                                                                                                                                                  |              | 300,000      |
| 5,600       | Hatchway castings .....                                                                                                                                                                                                                                           | 40           | 224,000      |
| 5,600       | Stairway do .....                                                                                                                                                                                                                                                 | 60           | 336,000      |
| 16          | Iron bridges.....                                                                                                                                                                                                                                                 | 8000         | 128,000      |
| 51,708      | Feet iron fence.....                                                                                                                                                                                                                                              | 10           | 517,000      |
|             | Trees set and walks made.....                                                                                                                                                                                                                                     |              | 20,000       |
| 8           | Tiers of balconies excepting fence.....                                                                                                                                                                                                                           | 17,000       | 136,000      |
| 1,600,000   | Feet tiller chains.....                                                                                                                                                                                                                                           | 10           | 160,000      |
| 17,00       | Wheel houses.....                                                                                                                                                                                                                                                 | 200          | 140,000      |
| 732         | Block ends of brown stone.....                                                                                                                                                                                                                                    | 6,000        | 192,000      |
|             | Facings for arches.....                                                                                                                                                                                                                                           |              | 300,000      |
|             | To pay for leases canceled, lots and houses bought on Broadway and Greenwich st., Inventors' compensation, and damages paid to persons having deeds from the Corporation, with a clause to the effect that the Battery shall not be appropriated to private uses. |              |              |
|             | For allowances and unestimated work.....                                                                                                                                                                                                                          |              |              |
|             |                                                                                                                                                                                                                                                                   |              | 634,470      |
|             | Total net cost.....                                                                                                                                                                                                                                               |              | \$22,000,000 |

I estimate the rents of the <sup>docks &</sup> stores annually, thus :

|                                                                             |         |             |
|-----------------------------------------------------------------------------|---------|-------------|
| 7 Docks .....                                                               | \$6,000 | \$42,000    |
| 700 Stores .....                                                            | 3,000   | 2,100,000   |
|                                                                             |         | <hr/>       |
| Total annual rent, .....                                                    |         | 2,142,000   |
| The annual interest on the cost of the work<br>would be <i>at 5% p. ct.</i> |         | \$1,100,000 |
|                                                                             |         | <hr/>       |
| Balance or yearly profit for sinking fund                                   |         | 1,042,000   |

This would pay the estimated cost of the work in fifteen years. The value of the work when completed, making the rent 7 per cent on the amount, would be thirty millions and six hundred thousand dollars, *or* eight millions and six hundred thousand dollars over the estimated cost.

The cost of the docks will be about \$900,000. The wharfage will not pay a fair per centage on more than \$600,000 ; yet thereby will be gained great attractions to the Promenades and great Commercial facilities. The cost of the Balconies and Promenades, including the extra cost of the stores, which will give to these Balconies and Promenades their peculiar position and effect, will amount to five millions of dollars, from which of course no direct income will be derived. The gain, however, to the general business of the city, by the influx of strangers from all parts of the world to see the New York Battery, will, without doubt in my mind, be more than the annual interest on five millions of dollars. The free use, too, by our citizens of the Balconies and Promenades proposed, will, I am confident, be estimated (if estimate can be made in money) at twice the annual interest of the sum last stated. Wharfage and rents of stores, therefore, are far from being the basis from which to estimate the full value of the Battery improvements I propose. ^

These improvements will increase the value of property in the vicinity, at least one million of dollars ; and also make a new and large demand for dwellings in the upper part of the City.

Let our Corporation carry out the proposed Improvement of the Battery chiefly by borrowing money of foreign capitalists, in large sums, and at low rates of interest.

Let all the Balconies and Promenades be open to the public, thus setting a good example to the Bishop of London in respect to Saint Paul's Cathedral, and making obsolete our present permitted charge of "One Shilling" "to view the beautiful scenery of our noble bay and harbor."

The wharves of the 7 docks before described will be, in all, 16,275 feet in length. The fronts of all the sea wall walks, balconies and promenades, will be in the aggregate, like the length of the fence before named, 9 miles 4,258 feet.

The views of the city from the Elevated Promenade, up Broadway to Grace Church, up South, Front, Water, Pearl, Beaver, Greenwich, Washington and West streets ; and the water views, south of the bridges, will possess attractions which no other promenade in the world can equal. The seven long, double rows of shipping in the seven docks, displaying the flags of all nations, will prove a most beautiful sight. I bespeak the fame of the Balconies for the magnificence of their views, and for their cool and quiet shades.—The views of Brooklyn, Brooklyn Heights, Long Island, Staten Island, Jersey shore, the Bay and the Islands in the Bay, as seen from the balconies and promenades I propose, will be most glorious, surpassing any ~~thing~~ in Venice or Constantinople, and far superior to the views from the present Battery in distinctness, variety, and spaciousness of outline.

And reader, what will you see from the west side of the block fronting on the Outside Battery ? Why over the outside, Battery, and under the trees where you stand, you will see north, both sides of the North River to Weehawken Hights, and south, our noble bay and harbor to the Narrows. All this, too, you can see in changed, yet most delightful aspects on the entire front of the Outside Battery. I have sought, with much patience and application, great diversity of views. Consequently, at almost every step you take over the promenades I propose, you will meet new views of our city, bay, harbor, and the surrounding scenery ;—here forests of ships, in stately and orderly rest, there a hundred sail obedient to the pilot and the breeze,—now a new scene in the bustle of business, and anon, a new view of the country in the distance.

The views *of* the structure I propose, as well as those from it, will possess great attractions. The graded ascents, as seen from Broadway and Greenwich st. will have a fine effect. From our bay and harbor you will see, situated between two splendid parks, seventeen lofty blocks of warehouses, connected at the tops by bridges, and covered by trees and promenades, interspersed, perhaps, with statues of Washington, Adams, Jefferson, Jackson, Clay, Webster,

Taylor, and others. The eight blocks before named, will appear like so many most picturesque promontories, projecting boldly between beautiful inlets into a tranquil sea.

To meet objections, I remark that, East river, between the Inside Battery and Governor's Island, will be about 2500 feet wide ; or, in addition to Buttermilk channel, about 350 feet wider than the entire width of said river at Fulton Ferry ; that the distance from the southwest corner of the Outside Battery to Governor's Island will be full 3000 feet, and to Bedlow's Island over 6000 feet ; that the distance between the Outside Battery and the proposed Communipaw Improvements will be 3500 feet, or 500 feet wider than the present width of North River, opposite 13th st, and 1300 feet wider than the present turn of East river at Corlears Hook ; that no part of our harbor will be in the least injured by my improvements—that these Improvements will greatly improve the current, as well <sup>as</sup> increase the safety and accommodation of shipping at all seasons, in the docks and channel of North River ; that the chimneys of the stores will produce a splendid architectural effect, and not encumber or in any way injure the Elevated Promenade—that the smoke from these chimneys in winter (there being none in summer, the time of most recreation), will possess, in a degree, the attractions of volumes emitted from so many volcanic peaks, which certainly, in any place or position, can be offensive to nobody, except perchance to some daring æronaut in the sky ; that the streets between and adjoining the blocks and Promenades proposed, being sprinkled and swept every week-day in the year, except when washed by rain, frozen, or covered by snow, will prevent dust rising--that these streets--open to and ending on the Sea Wall Walks, the Inside and the Outside Battery—being vacated by vehicles and business, evenings, Sundays, and Holidays, will then be delightful Promenades, making the entire space for recreation 96 acres ; that the regulations of the port of Liverpool, which forbid the use of fire on board of ships, being applied to the 7 Docks before mentioned, will prevent every thing offensive from that source ; that an Act of our State Legislature will enable our City Authorities to improve in full the New York Battery as I propose ; that the persons having deeds from the Corporation of the property of the block fronting on Bowling Green, Whitehall, Bridge and

State sts, in which there is a clause to the effect that the Battery shall not be appropriated to private uses, have recently offered to sell this property to parties intending to build a large hotel upon it—that, without litigation or delay, a moderate sum would, at the present time, make void the clause referred to ; that, although the trees shading the northern part of the present Battery will be destroyed, yet that a more attractive growth will supply their loss, shading, with those untouched, not, as at present,  $10\frac{1}{2}$ , but  $62\frac{1}{2}$  acres ; that a cellar in a Commercial district is more valuable than an attic—that the attic stories of the stores proposed will not have half the dampness of a cellar ; that an arch is now erected over Furman street, Brooklyn, showing the feasibility of the arches I propose ; that a brick store can be made to hold water as well as a brick cistern ; that a common brick store can be built to withstand the action of fire as well as a common brick oven ; that the vent for fire in the stores proposed, being only when closed, through warning holes over the window shutters, will be less than that from an ordinary coal pit which emits nothing but smoke and makes nothing but charcoal—that a fire might exist for a month in any of these stores without other damage than throwing out smoke, and, by slow process, making charcoal of the merchandise within its reach ; that any separate floor or story of any of these stores can be filled with Croton water with as little difficulty, and nearly as quick, too, as a canal lock at West Troy can be filled with Mohawk water ; that within the next five years, our Merchants and Capitalists can as profitably expend twenty-two millions of dollars in increasing the attractiveness and Commercial facilities of our City, as they have at least thirty millions of dollars within the past five years, in building railroads in the Country ; that in two fires alone within the past fifteen years the fire-proof stores I propose would have saved the Merchants and Capitalists of our City nearly twice twenty-two millions of dollars ; and that, judging for the future by the past, a wise economy requires the erection of stores, in number and description as hereinbefore given.

My plan to improve the Battery is a democratic plan. At least three-fourths of the cost will go directly into the pockets of Mechanics and Laborers. The rents, after paying the cost, will go into the City Treasury, thus benefiting every



man. This Improvement will be to our city what the Erie Canal has been and will be to our State—a source of just pride and renown, of public revenue, and of innumerable general and special advantages to individual prosperity.

To carry out all my plans would give steady employment to more than ten thousand men for the next twenty-five years. Employment is what the people want. An army of laborers will get us greater riches and more just fame, too, than an army of soldiers.

As my Improvements will answer important public purposes, and promote the interests of many individuals, I solicit subscriptions to enable me, by the aid of architects, mechanics, and others, to perfect, and to make complete models of all my plans; to make, upon some vacant lot or space in the city, specimen walls, arches, floors, roof and ground for a Promenade, such as I design for my Improvement of the Battery; to procure surveys, maps, drawings; and to form an Association, the object of which shall be, to advocate and support a vigorous prosecution of the improvements herein proposed.

*At N. B. Pine street*

I offer my services as Real Estate Agent and Commission Merchant, in the hope that in this way, also, I shall be assisted in bringing my plans prominently before the public. I have models of my plan to enlarge and improve the Battery, which (when not otherwise engaged,) I shall take pleasure in showing to those disposed to aid me in starting the comprehensive system of improvements herein recommended.

Citizens of this lovely island of Manhattan! you who have capital ingenuity, and labor to employ, adopt the hints and suggestions contained in this pamphlet (the result of most of two years' survey and study to the author), and the present generation will see the City of New York the Commercial Metropolis of the world, possessing in art and works of gigantic industry, more that is wonderful and pre-eminent, than can be found in all England, Greece, Rome, or Egypt.

And citizens of New Jersey ! make the Improvements I propose for your borders, fronting on that fairest of rivers, the Hudson, and you will have a city larger than Brooklyn, and second only to New York in commercial facilities.



Rec. 4 Oct. 1864.  
1618.



H O U G H ' S

IMPROVEMENTS.

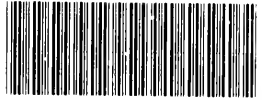


*as a true and useful work.*

*A*

*Sold  
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